

REMARKS

The Office Action mailed on November 17, 2004, has been reviewed and the Examiner's comments carefully considered. Prior to this paper, claims 1-20 were pending in the present application. By this paper, Applicants do not cancel or add any claims. Therefore, claims 1-20 remain pending in the present application.

Applicants respectfully submit that the present application is in condition for allowance for the reasons that follow.

Indication of Allowable Subject Matter

Applicants thank Examiner Salvatore for the indication that claim 12 contains allowable subject matter.

Claim Rejections Under 35 U.S.C. §103(a)

In the Office Action, Claims 1-2, 6-11, 13-15 and 17-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Adriaensen (WO 98/55682) in view of Zheng (U.S. Patent No. 5,807,430), while claims 1-2, 4-5, 7-11, 13-15 and 17-20 are rejected as obvious in view of Adriaensen when combined with Czerwinski (U.S. Patent No. 4,308,365), while claims 1-3, 7-11, 13-15 and 17-20 are rejected as obvious in view of Adriaensen when combined with Daisel (JP 5216465). Further, claim 16 stands rejected under the same statute in view of Adriaensen when combined with any of Zheng, Czerwinski and Daisel, in further combination with Carey II (USP 5,489,490).

In response, Applicants respectfully traverse the rejection as to the claims above, and submit that these claims are allowable for at least the following reasons.

Applicants rely on MPEP § 2143, which states that:

[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

It is respectfully submitted that at least the first and third criteria of MPEP § 2143 have not been met in the Office Action.

Lack of Suggestion or Motivation to Modify or Combine the References

In the present case, Applicants have discovered, based on their continuing efforts to advance the field, that without the application of a primer layer to a metal member as claimed, the thermoplastic material disposed around the metal members flows away during welding of the strip to the canvas, sometimes resulting in a metal member that is no longer surrounded by the thermoplastic material after welding; increasing the susceptibility of the metal to corrosion. (See specification, page 3, first paragraph.) This problem is simply not identified in the prior art. Moreover, the invention according to any of the claims provides increased resistance against sharp shear forces (such as accidental clipping by a scissor device). None of the cited references disclose or suggest that either of these advantages are obtained by implementation of a primer coat. Thus, the skilled artisan would simply not have been motivated to look to these references to improve the teachings of Adriaensen. It simply would not have been obvious to combine Bailey with the teachings of Adriaensen to arrive at the present invention. Such combination is made **by the innovator, not by the ordinary artisan.**

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Adriaensen in General: Claim 1, the only independent claim of the invention, is primarily rejected based on Adriaensen, the publication of Applicants' own prior efforts (both Mr. Adriaensen and Mr. Van DeWalle) advancing the field of reinforced canvas, when

combined with Zheng's teachings of metal surface treatment, Czerwinski's teaching of an adhesive, and Daisel's teaching of coated fishing wire.

As the Office Action correctly notes, Adriaensen teaches that wires do not adhere well to a thermoplastic matrix material. Thus, Applicants previously directed their efforts towards utilizing cords, which, as they noted in Adriaensen, have a higher adherence to thermoplastic matrix materials. That is, the primary reference teaches a suitable configuration for metal members that does not require an additional feature such as a primer that enhances adhesion of a thermoplastic matrix material to the metal. Thus, the Adriaensen reference teaches away from the present invention because it identifies a problem and directs the skilled artisan to the use of cords to alleviate the problem.

Moreover, the Adriaensen references evidences a long-felt need for the present invention that was not satisfied by the prior art. As the Office Action correctly notes, Adriaensen teaches that cords are more expensive than wires. Despite this, Applicants still directed their efforts towards utilizing cords, because they understood that thermoplastics do not adhere well to wire. If it had been obvious to utilize a primer layer on a wire as asserted in the Office Action, Applicants would have done so instead of utilizing more costly cords. Thus, there was a clear economic need for the present invention not fulfilled at the time Applicants submitted their application. Certainly this evidences the non-obviousness of the present invention. If the invention was as obvious as asserted in the Office Action in view of Applicants' own work, Applicants would have known to utilize primers with wires instead of utilizing cords.

Applicants respectfully submit that one of ordinary skill in the art, relying on Adriaensen, would not look to modify Adriaensen, but would simply follow the teachings of Adriaensen and utilize metal cords. Such a modification to the teachings of Adriaensen would only be undertaken by an innovator; a person who, when faced with a problem, ignores the solution to a problem placed directly in front of him or her (*i.e.*, the use of cords) and instead seeks an alternative solution previously untested.

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MPEP § 2143.01 details the requirements on the PTO for establishing motivation to modify or combine references to reject a claim as obvious. One requirement, as detailed in MPEP § 2143.01, subsection 6, is that “the proposed modification cannot change the principle of operation of a reference – If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810 (CCPA 1959).” In *Ratti*, the CCPA held that the “suggested combination of references would require a substantial reconstruction and redesign of the elements shown in the primary reference.” This substantial redesign would have resulted in changing a rigid seal to a resilient seal. Thus, a reference cannot be modified to render an invention obvious if the modification changes a principle of operation of the reference.

With the above in mind, it is respectfully submitted that since the teachings of Adriaensen rely on a principle of operation of direct bonding of a thermoplastic to a metal to form the strip, placing a primer layer in between the thermoplastic and the metal such that the thermoplastic no longer directly contacts the metal would change the principle of operation of Adriaensen. Indeed, Adriaensen discusses how some types of metal may bond better to a thermoplastic material than other types of metal, and relies on that heightened bond between metal and thermoplastic material. Thus, Adriaensen is determined to maintain metal-to-thermoplastic contact in his device. Since modifying Adriaensen to utilize a primer layer changes the principle of operation of Adriaensen, just as changing the rigid seal to a resilient seal was found to change the principle of operation in *Ratti*, “the teachings of [Adriaensen] are **not sufficient** to render the claims *prima facie* obvious.” (MPEP § 2143.01, emphasis added.)

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Adriaensen combined with Czerwinski or Daisel: Even if one of ordinary skill in canvas reinforcement decided to completely ignore the specific teachings as to the remedy to the identified problem and instead find a new solution, there is no evidence that such an artisan in 1999/2000 would look to techniques (in Daisel) involved in the construction of submerged fishing wire or to techniques (in Czerwinski) in providing reactive adhesive.

“[C]ommon sense” must be applied in deciding in which fields a person of ordinary skill would reasonably be expected to look. *Oetiker*, 24 U.S.P.Q.2d at 1446. In *Oetiker*, the Court found that “[i]t has not been shown that a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would reasonably be expected or motivated to look to fasteners for garments.” *Id.* In a similar fashion, a person of ordinary skill in the canvas arts would not reasonably look to the fishing line field or the adhesive field.

Moreover, in regard to Czerwinski, the skilled artisan would have been discouraged from looking to utilize the adhesive of Czerwinski as a primer layer. No art has been cited that would indicate that an adhesive is a recognized substitute for “a primer” as claimed. Moreover, adhesives are typically not used to “coat” elongated articles, such as an elongated metal member. (Claim 1 recites that the “elongated metal member is coated with a primer layer.”) Just the opposite is the case – adhesives are typically used in limited amounts in discrete locations. It would not have been obvious to utilize the adhesive of Czerwinski as asserted in the Office Action.

Adriaensen combined with Zheng: Zheng teaches a primer that is used for individual applications and not for the mass-production of elongated wires. The primer of Zheng is used to prime discrete surfaces of a first component to which a surface of a second component is to be mated. The primer of Zheng must be heat-treated for 30-60 minutes before anything is attached to the primer. The artisan of ordinary skill would consider such a long heat-treat time as unacceptable for use in coating non-discrete surfaces of elongated wires on a mass-production scale. Indeed, handling an elongated wire coated with a primer that takes 30-60 minutes to cure would have been considered complicated and probably cost prohibitive by the ordinary artisan. The ordinary artisan would simply have not looked to Zheng for teachings of applying a primer layer to an elongated metal member such as an elongated wire.

Claim 13

Claim 13 recites that the “metal member is a steel wire with a carbon content of **at least 0.40%.**” (Emphasis added.) Adriaensen teaches that suitable “metal materials include steel, copper or a low carbon steel wire with a carbon content **below .4%** (Page 5, 6-15).” (Office Action, page 3, lines 1-2, emphasis added.) Thus, Adriaensen teaches away from claim 13, even assuming *arguendo* that this feature is a result effective variable, and thus discourages the skilled artisan from seeking an optimum value of the carbon content above .4%. Such a claim is not obvious in view of the cited references.

Claim 16

Claim 16 stands rejected based on the combination of the above cited references against claim 1, and Carey II (USP 5,489,490), which is relied on in the Office Action to teach a metal member coated with a zinc layer or with a zinc alloy layer.

The Office Action appears to rely on the alleged ease by which the references can be combined, contrary to the procedures stipulated in the MPEP. The MPEP specifically states that the “mere fact that references can be combined or modified does **not** render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” (MPEP § 2143.01, subsection 3, first sentence, citations omitted.)

Also, the Office Action appears to suggest that there is a need to make fabric canvass reinforcements which are highly resistant to corrosion by coating a metal layer with zinc or a zinc alloy. However, there is nothing in any of the cited references that teaches or suggests such a need. Therefore, claim 16 is not obvious for yet another reason.

The Cited References Do Not Suggest All Claim Recitations

Even if the first requirement of MPEP § 2143 was satisfied in the Office Action (which it is not, as explained above), the cited references still do not meet the third requirement in view of at least some of the cited combinations, which is that “the prior art reference (or references when combined) must teach or suggest all the claim limitations.”

Claims 4 and 5: Claim 1 recites that the “elongated metal member is coated with a primer layer.” It is respectfully submitted that Czerwinski does not teach a primer, but instead teaches an adhesive. Thus, the combination of Czerwinski with Adriaensen still does not result in a teaching of any single claim. In this regard, since no other reference is cited as teaching a hot melt, claim 4 is allowable. Claim 4 has been placed into independent form to encompass the recitation of claim 1. Claim 5, which depends from claim 4, is also allowable in view of the fact that, as with claim 4, no other reference is used to reject claim 5.

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In sum, even if the first requirement of MPEP § 2143 is satisfied (which it is not), the third requirement of MPEP § 2143 is not satisfied in the Office Action, at least in regard to claim 12, since the cited references, alone or in combination, do not teach or suggest each and every element of these claims.

Lack of a Reasonable Expectation of Success

MPEP § 2143.02 permits references to be modified or combined to reject a claim as obvious only if there is a reasonable expectation of success. There is no evidence in the references, and certainly none identified in the Office Action, that one of ordinary skill in the art would have a reasonable expectation of success in achieving Applicants’ invention by combining Adriaensen with at least either of Zheng or Czerwinski. For example, Czerwinski teaches an adhesive. Assuming *arguendo* that this satisfied the recitation of a primer coat, it is not clear that the ordinary artisan would have believed that he or she could adequately coat elongated wires with an adhesive and then coat the adhesive with a thermoplastic material. Still further by example, as noted above, Zheng teaches a coating that takes 30-60 minutes to cure. There is no evidence that such a cure time would be acceptable when priming elongated wires on a mass-production scale. Indeed, handling the wire until the coating is cured would be most difficult. It is respectfully submitted that the ordinary artisan would not have expected success in coating an elongated wire with the coating of Zheng. Thus, one of ordinary skill in the art would not see the combination of the references as producing a

successful strip. Because of this, the second criteria of MPEP § 2143 has not been met in the Office Action in regard to at least these two references, and a *prima facie* case of obviousness has therefore not been established.

Conclusion

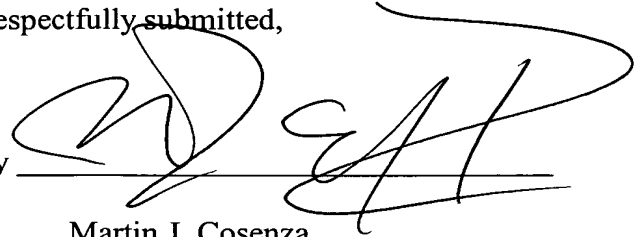
Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Examiner Salvatore is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

By

A handwritten signature in black ink, appearing to read 'M. J. Cosenza', written over a horizontal line.

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